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(54) Title: POPULATION BASED PREDICTION METHODS FOR IMMUNE RESPONSE DETERMINATIONS AND METHODS FOR VERIFYING IMMUNOLOGICAL RESPONSE DATA

nM IC$_{50}$ For Binding To Purified HLA

Protein	DRB1									
	*0101 (DR1)	*0301 (DR3w17)	*0401 (DR4w4)	*0404 (DR4w14)	*0405 (DR4w15)	*0701 (DR7)	*0802 (DR8w2)	*0901 (DR9)	*1101 (DR5w11)	*1201 (DR5w12)
BPN'Y217L.70	6.5	8737	33	5.7	166	154	1711	46	2382	80
BPN'Y217L.109	8.8	–	30	166	37	58	2192	43	3019	1235
B. lentus 157	1085	18,433	4794	7575	6784	724	>16,333	1484	–	–
B. lentus .160	13	–	142	5542	1348	138	2033	164	5554	–

DRB1		DRB3/4/5			DQ			Degeneracy
*1302 (DR6w19)	*1501 (DR2w2β1)	*DRB3*0101 (DR52a)	*DRB4*0101 (DRw53)	*DRB5*0101 (DR2w2β2)	DQA1*0501/ DQB1*0201 (DQ2)	DQA1*0301/ DQB1*0301 (DQ3.1)	DQA1*0301/ DQB1*0302 (DQ3.2)	n/18
0.69	21	2010	31	15,689	670	440	2069	12
9.8	683	119	1071	1024	97	2182	80	11
2009	865	>9434	>9667	–	6157	6009	5009	2
559	127	6157	8257	1726	1296	63	1046	7

(57) Abstract: The present invention provides means to assess immune response profiles of populations. In particular, the present invention provides means to qualitatively assess the immune response of human populations, wherein the immune response directed against any protein of interest is analyzed. The present invention further provides means to rank proteins based on their relative immunogenicity. In further embodiments, the present invention provides means for verifying immunological response data, as well as means for predicting immune responses directed against any antigen/immunogen. In addition, the present invention provides means to create proteins with reduced immunogenicity for use in various applications.